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ABSTRACT

An overview of some of the recent developments in experimental research on early infantile autism considers related issues such as language impairments, cognitive and affective deficits, nonverbal communication, social behavior, and therapeutic interventions. Research indicates that difficulty with abstract use of language and with pragmatic language are among impairments seen in autistic young children. Recent research also indicates that the fundamental deficit in autism is an affective rather than a cognitive deficit as previously believed. In the area of nonverbal communication, it has been demonstrated that autistic children have particular difficulty with behaviors requiring the coordination of attention between self and others, such as pointing or showing. Therapies to improve autistic children's social behavior have just begun to be developed. The important question to be addressed in all further research in this area is the extent to which early intervention can alter the course of development in autism, particularly as it relates to social development. (CB)

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Symposium on Recent Developments
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Symposium on Recent Developments in Experimental Psychopathology

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Today, in the brief amount of time allowed, I will provide an overview of some the recent developments in experimental research on early infantile autism. Ironically, one of the most recent developments is a renewed interest in a hypothesis that was introduced 40 years ago by one of the first persons to write about the syndrome, Leo Kanner. In his classic 1943 paper describing 11 children with autism, Kanner wrote "these children have come into the world with an innate inability to form the usual, biologically provided affective contact with people". It has taken us forty years of careful research to come to a similar position.

Let me outline the steps that were taken to reach this position. Once the notion that autism results from inadequate parenting was refuted, researchers diligently began to examine autistic children's language and cognitive abilities in an attempt to define the fundamental nature of their processing impairments. As the result of this research, we now know that two characteristics uniquely define autistic individual's language impairments. The first of these is a difficulty with abstract usage of language. For example, when asked to define the word, "dinner" even the high-functioning individual would be likely to answer "you eat it" rather than "the evening meal". The second language impairment is in the area of pragmatics.

Even autistic individuals who have mastered the grammatical structure of language and who have no difficulty in articulation fail to take into account the point of view of the listener when they are speaking. Thus, their conversations tend to be one-sided and idiosyncratic. Both of these linguistic impairments suggested that a more basic cognitive deficit is present. Carefully controlled studies comparing autistic persons with those with related disabilities, such as mental retardation, have allowed us to characterize this cognitive deficit. It is best described as a fundamental difficulty in symbolic thinking. This disability shows up in several realms, such as the development of language and use of gesture, symbolic play, the ability to adopt several points of view on one subject, and so on. Now, here is where the recent development comes into play. The major insight recently arrived at by several researchers is that the specific disabilities that characterize autism have one important common feature; that is, these abilities develop in the context of social interaction between a young infant and its caretaker. The logical extension of this insight is that the fundamental deficit in autism may, in fact, be an affective rather than a cognitive one. I (Dawson & Galpert, 1986) along with others such as Peter Hobson (in press), have argued that the difficulty autistic individuals have with symbolic thinking, while having many cognitive implications which are manifested at different levels throughout the lifespan of the autistic individual, is essentially affective and/or social in origin. Many developmental theorists have argued that the capacity to symbolize develops in

a social context, from Piaget (1962), who believed that symbolic thought was derived from imitation of others, to Wolf and Gardner (1981), who have suggested that the ability to symbolize emerges from social play.

If, in fact, the fundamental deficit in autism is an affective one, we must now discover what is the nature of this deficit. To date, there have been relatively few studies that have addressed this problem. There is some evidence that autistic children have particular difficulty in perceiving and categorizing facial expressions, although they are able to correctly categorize nonsocial stimuli (Weeks & Hobson, 1986). In the area of emotional expressiveness, Mundy and Sigman (in press) have reported that, compared with developmentally-matched retarded children, autistic children's facial expressions are particularly difficult for others to judge. In their study, it was found that the autistic children were more likely to display blends of emotions, such as anger and enjoyment. These studies suggest that autistic children do not lack the basic capacity of facial expression. Rather, it appears that these children use facial expressions in an abnormal way. The few studies (e.g., Mirenda, Donnellan, & Yoder, 1983) that have carefully examined autistic children's use of eye contact have reached a similar conclusion. That is, it is not that these children fail to look at others, or even look at others less; rather, eye contact is used in an unusual way, thus giving the appearance of a lack of eye contact. In my own laboratory, we are presently studying videotaped free play and feeding sessions of young autistic children with their mothers in an attempt to

better describe the functional usage of eye contact and emotional expression by autistic children.

In the area of nonverbal communication, it has been demonstrated that autistic children have particular difficulty with behaviors requiring the coordination of attention between self and others, such as pointing and showing (Mundy & Sigman, in press). My own hypothesis is that this difficulty, as well as the problems in affective expression and perception, arise from a fundamental inability to perceive a relationship between one's own body movements and those of others. Perhaps the most important early manifestation of this is the autistic child's failure to imitate the body movements of others, which has been demonstrated in numerous studies (e.g. Dawson & Adams, 1984). It has been shown that normal newborn infants are able to imitate the facial expressions and body movements of adults (Meltzoff & Moore, 1977). Thus, it is quite possible, even likely, that humans are born with an ability to recognize the similarity between one's own actions and that of others. This ability probably relies on a primitive internal cross-modal representational capacity for matching the visually-perceived movements of others and one's own kinesthetically-perceived ones. The spontaneous manifestation of this capability is imitation, one of the earliest forms of communication between the infants and its caretaker. Without the natural proclivity to imitate, the autistic infant loses the essential opportunity to share and recognize patterns of movements of others, including emotional expressions. Furthermore, this situation is likely to have

serious secondary consequences. Most importantly, the autistic child lacks the foundation for engaging in reciprocal social interaction with his or her caretaker. Without this, the child fails to come to perceive him- or herself as an effective social being and fails to develop intentionality in the social realm. This in turn, may account for the lack of social initiative and withdrawal exhibited by many autistic children, not unlike that seen in depression or in children who have been deprived of social stimulation.

The interest in social behavior and affect in autistic children has had a number of influences on the direction of research in this area. To begin with, there is interest in developing standardized methods for assessing the social and affective impairments of autistic children. Lord & Rutter (Rutter, 1986) have recently advocated a functional assessment of social and affective skills for diagnosing autism since many of the social deficits appear early and are unique to autism. A careful assessment of social and affective skills would also be extremely useful for treatment planning. There is a tremendous interest in developing treatment methods that directly address the social impairments of autistic children. For example, Larry Galpert and I (Dawson & Galpert, 1986) have been investigating the effectiveness of imitating the autistic child's actions for facilitating social responsiveness. The notion behind this technique is that imitation of the child's actions helps the child to perceive a predictable, similarity between his or her own actions and those of others. Imitating a young autistic child's behavior may be effective in facilitating social

responsiveness for several reasons. First, according to our assessments, as well as those of others, it appears that many preschool-age autistic children function socially at a level similar to that of 1- to 4-month old infants (Dawson & Adams, 1984). One of the primary means that parents typically use for interacting with their young infants is to imitate their vocalizations and facial expressions. Thus, by adopting a very early interactive strategy, we may provide social experiences that are appropriate for, and meaningful to, the autistic child. Second, this particular strategy allows the child to take active control of the interaction. The child learns that he or she can effectively and predictively elicit a response from another person. It is probably through this kind of predictable, contingent responding by the parent that young infants gain a sense of social effectance and intentionality. Furthermore, because the interaction is led by the child, he or she can regulate the amount and type of stimulation received from the other person, thus ensuring that the interaction will not be overstimulating or too complex. We have recently completed a study in which mothers were instructed to spend at least 20 minutes a day imitating the toy play of their child with identical toys for a period of two weeks. Videotaped observations of the mother and child were made before and after treatment. The most striking effect of the technique was on the child's social interest in the mother, particularly eye contact, which cumulatively increased during the two week period.

Since we have only just begun to develop therapies to improve autistic children's social behavior, we have little knowledge of how responsive these children will be to such therapies. It is very likely that much of what we think of as autism is in fact the secondary consequences of early social impairments (See Dawson, in press). These secondary consequences, among others, include a lack of social initiation and reciprocity, and a difficulty in the use of symbols. The important question to be addressed now is to what extent can we alter the course of development in autism by early intervention that focusses directly on their social behavior.

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